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Learning point

# The fatal case of a cocaine body-stuffer and a literature review – towards evidence based management

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**Abstract**

The case of a 50-year old female body-stuffer who collapsed and died more than 10 h after swallowing a plastic wrap of cocaine is reported. The case is discussed together with a review of the literature in order that guidelines on managing body-stuffers in police custody can be evidence based.


*Keywords:* Body-stuffers; Cocaine; Fatality; Management

## 1. Introduction

There are two distinct groups of individuals who swallow packets containing illicit drugs in an attempt to avoid detection by law enforcement agencies. 'Body-packers' are international smugglers who ingest packages of drugs in order to transport and subsequently retrieve them in a foreign country.[1] 'Body-stuffers' are individuals who ingest drugs at or around the time of their arrest in order to 'swallow the evidence'.[2] Whereas, body-packers take great care to package the drugs in such a way as to ensure their safe transit through the gastro-intestinal tract without rupture, body-stuffers take no such elaborate precautions as they swallow packages in an unplanned attempt to conceal evidence. The drugs concerned have usually been prepared for street sale or carried for personal use and may be loosely wrapped in cellophane, plastic bags, paper or aluminium foil. These containers carry with them the obvious risk of leakage; subsequent absorption of the drugs contained therein leading to toxic complications and possible death. Although all sorts of illicit drugs can be swallowed by body-stuffers, cocaine appears to be the drug most commonly associated with problems of toxicity and death.[3–6]

Body-stuffers pose a number of problems for police officers and forensic physicians responsible for their care whilst in police custody-particularly in terms of identification and subsequent management. These problems will be discussed in the context of the case of a female body-stuffer.

## 2. Case history

A 50-year old woman was arrested at 16.30 h on suspicion of possession of a controlled drug with intent to supply. The police had grounds to believe that she might have controlled drugs concealed on her body and she was taken to a local hospital in order that an intimate search could be performed in accordance with the provisions of section 55 of the Police and Criminal Evidence Act 1984. At 18.50 h the duty forensic physician performed an intimate search and found no evidence of any drugs in either her vagina or rectum. The detainee was returned to the police station.

Later that evening the decision was taken that she would be kept in police detention overnight to appear in court the following morning. She apparently became upset when informed of this and about 20 min later, at 22.40 h, she told custody staff that she had swallowed a plastic bag contain-

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ing either cocaine or amphetamines at the time of her arrest and was now feeling unwell.

At 23.30 h, she was re-examined by the forensic physician, who noted that her pulse rate was 72 beats/min and that she was 'well awake' with no signs of drowsiness or confusion. The doctor advised the police that she was fit to be detained and recommended that she be observed half hourly.

The woman was checked by custody staff at approximately half-hourly intervals thereafter. At 02.15 h the following morning she was recorded as sat up "rocking backwards and forwards" and at 02.45 h she was "correct, sat up". At 03.12 h, just under 11 h after her arrest, she was visited and found to be lying face down and unresponsive in her cell. An ambulance was called but resuscitation attempts failed and she was declared dead.

A subsequent post-mortem demonstrated the presence of a plastic material with adjacent white mucoid material in the small intestine. The mucoid material tested strongly positive for the presence of benzoylecgonine (the major metabolite of cocaine) and the cause of death was found to be due to cocaine poisoning.

## 3. Discussion

### 3.1. Identification

Identification of body-stuffers can be straightforward if police officers witness individuals ingesting drugs while making arrests. Good practice in such circumstances is for the police to take them straight to hospital for an assessment rather than assuming that the ingestion was trivial and transporting the person to a police station. However, the more common scenario is that body-stuffers ingest drugs out of sight of the arresting police officers. These individuals will very often deny drug ingestion for fear of prosecution even if they start to develop symptoms, thus making identification in police custody very difficult.

The examining forensic physician needs to be alert to the possibility of drug ingestion and unexplained signs of cocaine intoxication should prompt direct enquiry about body-stuffing. Although it was once held that orally ingested cocaine would cause little systemic toxicity because gastric acid would almost entirely hydrolyse the drug to it is inactive metabolite, benzoylecgonine, it is now appreciated that the entire spectrum of cocaine intoxication and threats to life can occur after oral ingestion. [7] The primary toxic effects of cocaine are on the cardiovascular and central nervous systems and the doctor should look for the typical constellation of signs that include tachycardia, hypertension, mydriasis and agitation. Patients with cocaine intoxication may complain of a multitude of symptoms including altered mental state, chest pain, syncope, palpitations, seizures, dyspnoea and abdominal pain.[4,8] Life threatening complications include cardiac arrhythmias, myocardial infarction, cardiovascular collapse, seizures, rhabdomyolysis, metabolic acidosis, hyperpyrexia and intracranial haemorrhage.[5,9]

A further problem for the examining doctor is that the typical body-stuffer has a personal history of drug misuse and identification of symptoms of cocaine intoxication due to leakage from an ingested package may be complicated by co-existent intoxication with other drugs. Thus, the forensic physician needs to be aware of the potential confounding effects of other drugs.

### 3.2. Management

When a forensic physician identifies signs of cocaine intoxication in a potential body-stuffer, the decision to admit that person to hospital for observation and treatment is relatively straightforward. However, not all cocaine body-stuffers are symptomatic,[10] and there appears to be no clear correlation between the quantity of cocaine ingested and the development of clinical symptoms.[10] The decision whether to admit asymptomatic detainees to hospital when either they are suspected, or claim to be, body-stuffers is more problematic, not least because false claims of drug ingestion might be made in the hope of avoiding detention in a police cell and facilitating escape.

The decision making process would be facilitated if there was a known period after which an asymptomatic cocaine body-stuffer can be safely left in police detention. Some groups have suggested that observation in hospital is no longer required if the individual has been asymptomatic for as little as 6 h,[11] whereas others have advocated much longer observation periods of 48–72 h,[2] but is there evidence to support either of these views?

The case history above does not resolve the issue as there is a conflict in the evidence regarding whether the detainee was symptomatic 6 h after ingestion. On her account, she was experiencing symptoms at around this time but, based on the doctor's account, she was asymptomatic and exhibiting no signs of intoxication 1 h later. However, as she admitted to swallowing a package at the time of arrest and, as the negative drug search effectively rules out drug ingestion whilst in custody, what the case does demonstrate is that death can occur more than 10 h after cocaine ingestion.

A review of the limited literature on the subject provides evidence to suggest that a blanket policy of observation for only 6 h is insufficient for the asymptomatic cocaine body-stuffer. One report discusses two young men who presented to an emergency department after ingesting packets containing crack cocaine.[7] The first male developed headache, tachycardia and raised creatinine phosphokinase (CPK) 24 h after ingestion, whereas the other had the first of three cocaine-related seizures 10 h after ingestion. In a retrospective case series of patients attending another emergency department, 98 individuals were identified who either admitted to or were strongly suspected of ingesting crack cocaine as a means of escaping detention by authorities. [11] Although there are some methodological flaws in the study design,[12] the finding that minor symptoms of cocaine intoxication developed between 5–15 h after ingestion in 11 individuals, and more than 15 h after in 3 cases, suggests

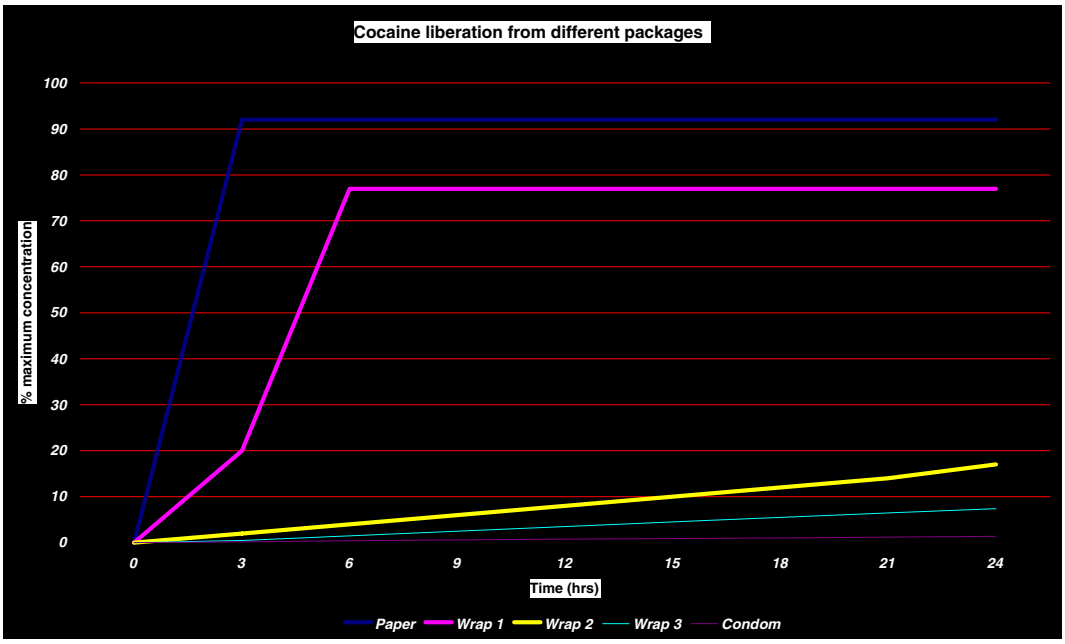


Fig. 1. Cocaine liberation from different packages.

that some cocaine body-stuffers do need to be asymptomatic for longer than 6 h before they can be safely left in, or returned to, police custody.

One factor that does appear to have a significant bearing on the time to onset of symptoms is the integrity of the packaging in which the cocaine is contained. An in vitro study looked at cocaine liberation from condoms, cellophane bags and paper packets. Three different wrapping techniques were used for the cellophane bags, with the corner section of a triangular bag either being folded once (wrap 1), twice (wrap 2) or three times (wrap 3) before being secured by tying together the loose ends. The study demonstrated variable cocaine liberation from the different packaging materials, with least liberation from condoms more from cellophane bags and most from paper.[13] (see-Fig. 1). Although the simulated gastrointestinal medium in this in vitro model did not perfectly mimic the gastrointestinal tract or the dynamic turnover of its contents with time, the results should aid forensic physicians by emphasising the importance of obtaining a meticulous history of the packaging material and method of wrapping. With a better knowledge of the material and method of wrapping, the doctor will have a better idea of the risk of cocaine liberation and subsequent toxicity. In cases where the cocaine is not 'securely' wrapped, it appears safe to leave detained body-stuffers in police custody if they are asymptomatic 6 h after ingestion. However, for those who have ingested cocaine in more 'secure' wraps, or when details of the packaging are unknown, it seems that the observation period in hospital should be at least 24–36 h.

## 4. Conclusion

The case history presented above, together with the associated literature review, demonstrates that cocaine body-stuffers can develop toxic symptoms at least 24 h after ingestion and that delayed toxicity can, on occasion, lead to death. It appears that the integrity of the packaging has an important predictive value in determining the time and likelihood of toxicity. Thus, it is essential that forensic physicians take a careful history of the packaging material and method of wrapping when deciding whether a cocaine body-stuffer is fit to be detained in police custody.

Detainees who have swallowed cocaine that is not securely wrapped (i.e., in paper packaging or cellophane of single membrane thickness) are fit to be detained in police custody as long as 6 h have elapsed since ingestion and they are asymptomatic. If seen sooner than 6 h after ingestion they should be admitted to hospital for observation. However, those who have swallowed cocaine in securely wrapped packages (i.e. condoms or cellophane of double or triple membrane thickness) need to be observed in hospital for at least 24 h from the time of ingestion. Only if they are asymptomatic after this period can they be considered safe from the risk of toxicity and, therefore, fit to be detained in police custody. Whenever there is uncertainty about the nature of the packaging material, doctors should err on the side of caution and ensure a minimum period of 24 h observation in hospital. As no research has been conducted on the security of other commonly used packaging materials, such as cling-film and aluminium foil, at least 24 h observation should be recommended in these circumstances.

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